

Ph.D. Curriculum (2024~2025) (for international students)

Graduate Institute Of Biomedical Sciences, Chang Gung University 2024.05

- Students pursuing a PhD degree must fulfill a minimum 18 course credits and 6 credits for PhD dissertation.
- Students may choose any courses listed below and any EMI courses offered by GIBMS.
- With the approval of the advisor, students may also take courses offered by other doctoral programs in CGU to meet the credit requirement for graduation; only the total credits earned from other PhD programs cannot exceed 50% of the total elective credits for graduation. For students without a MS degree, 30 credits are required for graduation (plus 6 credits for PhD dissertation).
- The 6 credits for PhD dissertation are given after passing the final defense and submitting the approved dissertation.
- See 2024 PhD student manual for graduation requirements.

Divisions	Course Code	Course Title	Credit	Year	Semester		Note
					Fall	Spring	
General Required Courses	BMD009	Seminar	8	1	√	√	
				2	√	√	
				3	√	√	
				4	√	√	
	BMD402	Scientific Integrity and Scientific Writing	2	2		√	
Recommended Courses	Biochemistry and Cellular Molecular Biology	EMM002	Biochemistry and Molecular Biology	2	1	√	
		BMD672	Advanced Cell Biology	2	1		√
	Microbiology and Immunology	BMD601	Microbiology-Bacteriology	2	1	√	
		BMD602	Microbiology-Virology	2	1	√	
		BMD652	Advanced Immunology	3	1	√	For students with basic knowledge in immunology.
		BMD603	Microbiology-Parasitology	2	1	√	
	Physiology and Pharmacology	BMD704	Human Physiology	4	1	√	
		BMD202	Pharmacology	4	1	√	Jointly offered with School of Medicine.
		BMD705	Medical Pharmacology	4	1		√
	Biotechnology	BMD401	Advanced Technologies in Systems Biology	3	1	√	
	Natural Products	BMD802	Special Topics in Natural Products	2	1	√	
	Multi-Omics Informatics & Intelligence Computing	BMD501	Special Topics in Multi-Omic Perspective of Biomedical Study	2	1		√
		BMD246	Advanced Biostatistics	2	1	√	
Elective Courses	Biochemistry and Cellular Molecular Biology	BMD355	Special Topics in Biochemistry, Cell & Molecular Biology (1)	2	1	√	
		BMD254	Biological and Biomedical English Paper Writing Style	2	1	√	
		BMD522	Molecular Virology Laboratory	2	1	√	Summer course, class limit: 20
		BMD344	Special Topics in Membrane Trafficking and Exocytosis	2	1		√
		BMD674	Cell Growth and Apoptosis	2	1		√
		BMD356	Special Topics in Biochemistry, Cell & Molecular Biology (2)	2	1		√
	Microbiology and Immunology	BMD664	Writing Theses and Research Proposals	2	1		√
		BMD673	Advances in Immunology	2	1		√
		BMD660	Bacterial Pathogenesis	2	1		√
	Physiology	BMD241	Signal Transduction	2	1	√	

	and Pharmacology	BMD243	Special Topics in Circulation	3	1	√		
		BMD248	Special Topics in Pharmacology	2	1		√	Offered bi-annually, starting in 2023
	Multi-Omics Informatics & Intelligence Computing	BMD523	Bioinformatics	2	1	√		
	Biotechnology	BMD453	Molecular Imaging	3	1	√		Offered bi-annually, starting in 2007
		BMD460	Vaccine Development	3	1	√		Offered bi-annually, starting in 2009
		BMD454	Special Topics in Emerging Viruses	2	1	√		
		BMD665	Special Topics in RNA Viruses	2	1	√		
		BMD466	Free Radical Biology & Medicine	2	1	√		
		BMD464	Translational Cancer Medicine	2	1	√		Prerequisite: Cell Biology Or Molecular Biology
		BMD461	Advanced Bacteriology	2	1		√	
	Natural Products	BMD811	Special Topics in Dosage Form Design	2	1	√		
		BMD812	Natural Products and the Balance of Thrombosis	2	1	√		
		BMD815	Special Topics in Advanced Medicinal Chemistry	2	2	√		
		BMD822	Information Studies of Traditional Chinese Medicine	2	2	√		
		BMD816	Special Topics in Pharmacogenomics	2	2		√	
		BMD821	Special Topics in Industrial Pharmaceutical Biotechnology	2	1		√	
		BMD817	Special Topics in Epigenetics	2	2		√	
		BMD823	Industrial Development of Chinese Medicine and Herbal Drugs	2	2		√	
	Others	BMD668	Animal Model For Studying Emerging Infectious Diseases	2	1	√		Offered by the international master program for molecular medicine in emerging viral infections (MMEVI)
		BMD669	Genomic Data Science	2	1	√		
		BMD670	Deep Learning with Python	2	1	√		
		BMD403	Molecular & Cellular Biology	2	1	√		
		BMD524	Zoonotic Viral Infections	2	1	√		
		BMD404	Technologies and Advances in Emerging Viral Infections	2	1		√	
		BMD675	Methodology of Molecular Virology	2	1		√	
		BMD676	Anti-Virus Drug Development	2	1		√	
		BMD677	Advanced Clinical Virology	2	1		√	
		BMD678	Test Reagent Kit Development	2	1		√	

Note:

Subjects chosen by students must be approved and signed by the dissertation supervisor.

Director of GIBMS: _____ **Head of the Course Committee:** _____